



SDMS Doc ID 2010243

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION IX LABORATORY
1337 S. 46TH STREET
BLDG. 201
RICHMOND, CA 94804-4698**

DEC 23 2002MEMORANDUM

SUBJECT: Case R03S08
Results for Perchlorate Analysis

FROM: Brenda Bettencourt, Director *K. Bettencourt for*
EPA Region 9 Laboratory (PMD-2)

TO: Nancy Riveland-Har, Remedial Project Manager
Site Cleanup Section 4 (SFD-7-4)

Attached are the report narrative and results spreadsheet from analysis of samples from the Omega Chemical Superfund site. These data have been reviewed in accordance with EPA Region 9 Laboratory policy. Summary information for the data included in this report is as follows:

SITE/PROJECT:	Omega Chemical
CASE:	R03S08
LABORATORY:	U. S. EPA Region 9 Laboratory
SAMPLE DELIVERY GROUPS:	02318C
ANALYSES:	1,4-Dioxane (EPA method 8270C)

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Vance Fong at the Region 9 Quality Assurance Office.

If you have any questions please contact Rich Bauer at (510) 412-2312, or Ken Hendrix at (510) 412-2321.

ATTACHMENT: Analytical Report

USEPA REGION 9 LABORATORY
REPORT NARRATIVE

CASE NUMBER:	R03S08
SAMPLE DELIVERY GROUP (SDG):	02318C
PROGRAM:	Superfund
DOCUMENT CONTROL #:	B0101145-2209
ANALYSIS PERFORMED:	1,4-Dioxane
DATE SUBMITTED:	November 6, 2002
SAMPLE NUMBERS:	

<u>Client</u> <u>Sample ID</u>	<u>Laboratory</u> <u>Sample ID</u>	<u>Client</u> <u>Sample ID</u>	<u>Laboratory</u> <u>Sample ID</u>
GW402-MW03A-0042	AB37601	GW402-MW04A-1047	AB37619
GW402-MW07A-0041	AB37602	GW402-MW04B-0075	AB37620
GW402-MW11A-0045	AB37603	GW402-MW04C-0094	AB37621
GW402-MW04A-0047	AB37618		

GENERAL COMMENTS

Seven (7) water samples were received at the EPA Region 9 Laboratory on 11/13/02 and 11/14/02 from the Omega Chemical project.

The samples were analyzed for 1,4-dioxane in accordance with Region 9 Laboratory SOP 315, *Semivolatile Organics Analysis*, modified to include 1,4-dioxane, based on EPA SW 846 Method 8270C, *Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)*, Revision 3, December 1996.

SAMPLE RECEIPT AND PRESERVATION

No issues related to shipping or preservation were encountered with these samples except sample AB37603 was logged in as GW402-MW011A-0045 but is identified as GW402-MW11A-0045 on the chain of custody form. The results refer to GW402-MW11A-0045 while the raw data for this sample refers to GW402-MW011A-0045.

QA/QC AND ANALYTICAL COMMENTS

The following comments appear on the Summary of Analytical Results.

- A. Results detected at concentrations below the quantitation limit (QL) but greater than or equal to one half the QL are reported with a "J" flag to indicate the uncertainty of quantitation at these levels.

- B. The surrogate listed below does not meet the QC limits. The quantitation limits for the analyte associated with that surrogate in the sample and LRB listed below is estimated and "J" flagged due to low percent recoveries.

Sample ID	Lab ID	Surrogate	% Rec	QC Limit
GW402-MW03A-0042	AB37601	1,4-Dioxane-d8	49	50 - 130

- C. The internal standard areas for the sample and LRB listed below do not meet the QC limits. Detected results and quantitation limits for the analyte associated with the internal standard in the sample and LRB listed below are estimated and "J" flagged.

Sample ID	Lab ID	Internal Standard	Area Count	QC Limit
GW402-MW03A-0042	AB37601	1,4-Dioxane-d8	57223	59532 - 238128
LRB	DBLK324B	1,4-Dioxane-d8	47997	52625 - 210500

The following QC results are associated with the samples in this SDG:

QC requirements were met for the initial calibration and all CCVs.

QC limits were met for all QCS percent differences, surrogate percent recoveries, LFB percent recoveries, LFM/LFMD (QC samples: GW402-MW03A-0042 and GW402-MW04C-0094) percent recoveries, internal standard area counts and retention times, and QLS percent recoveries, except as noted above.

All samples were extracted within the 7 day holding time for water samples and analyzed within the 40 day extract holding time.

No 1,4-dioxane was detected in the LRBs associated with these samples.

Any questions in reference to this data package may be addressed to Ziyad Rajabi at (510) 412-2390.

GLOSSARY

Initial Calibration

The initial calibration demonstrates that the instrument is capable of meeting the minimum relative response factors (RRFs) and has a linear calibration curve described by percent relative standard deviation (%RSD). The average RRFs determined in the initial calibration are used to quantitate analytes and surrogates.

Quality Control Standard (QCS)

The quality control standard is a mid-point calibration standard prepared from a source different than the calibration standards. The QCS is used to check the accuracy of the initial calibration standards.

Continuing Calibration Verification (CCV)

The continuing calibration verification checks the instrument performance daily by ensuring the instrument is capable of meeting the minimum relative response factors (RRFs) and continues to meet the linear calibration curve as demonstrated by percent difference (%D).

Quantitation Limit Standard (QLS)

The quantitation limit standard is used to demonstrate low level quantitation performance for all target compounds.

Laboratory Reagent Blanks (LRBs)

A laboratory reagent blank is laboratory reagent water or baked sand with all reagents, surrogates, and internal standards added and carried through the same sample preparation and analytical procedures as the field samples. The LRB is used to determine the level of contamination introduced by the laboratory during extraction and analysis.

Surrogates

Surrogates are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with surrogate compounds prior to extraction. Surrogate percent recovery (%R) provides information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

Laboratory Fortified Sample Matrix and Duplicate (LFM and LFMD) Analysis

Laboratory fortified sample matrix and duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

Laboratory Fortified Blank (LFB) Analysis

A laboratory fortified blank is laboratory reagent water or baked sand with all reagents, surrogates, internal standards and representative target compounds added and carried through the same sample preparation and analytical procedures as the field samples. The LFB analyses provide information about the laboratory and method performance. Poor percent recovery (%R) results

may indicate poor laboratory technique or poor method performance for a particular class of compounds.

Internal Standards

Internal standards are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with internal standard compounds prior to analysis. Internal standard recoveries and retention times provides information about both the instrument performance on individual samples and the possible effects of the sample matrix on the analytical results.

Suffixes to Sample ID and Lab ID

The following suffixes may be attached to sample ID's and lab ID's to distinguish between different extraction samples or analytical runs: RX for reextraction, RE for reanalysis, and DL for dilution analysis.

**EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS**

Case: R03S08
 Site: Omega Chemical
 SDG: 02318C
 Date: 12/9/02
 Analysis: 8270C
 Matrix: water

Sample No.	GW402-MW11A-0045			GW402-MW03A-0042			GW402-MW04A-0047			GW402-MW04A-1047			GW402-MW04B-0075		
Location	MW11A			MW03A			MW04A			MW04A			MW04B		
Lab Sample ID	AB37603			AB37601			AB37618			AB37619			AB37620		
Date of Collection	11/13/02			11/13/02			11/14/02			11/14/02			11/14/02		
Units	ug/L			ug/L			ug/L			ug/L			ug/L		
Analyte	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt
1,4-Dioxane	0.7	J	A	0.8	J	ABC	24			25			43		

Cmt:Refer to corresponding section in the report narrative for each letter

N/A:Not Applicable

N/R:Not Reported

U:Parameter was analyzed, not detected. Value is quant. limit, adjusted for dilution, if any

J:Estimated

**EPA REGION 9 - LABORATORY - RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS**

Case: R03S08
 Site: Omega Chemical
 SDG: 02318C
 Date: 12/9/02
 Analysis: 8270C
 Matrix: water

Sample No.	GW402-MW04C-0094			GW402-MW07A-0041			Method Blank-1			Method Blank-2		
Location	MW04C			MW07A			DBLK318			DBLK324B		
Lab Sample ID	AB37621			AB37602			11/14/02			11/20/02		
Date of Collection	11/14/02			11/13/02			ug/L			ug/L		
Units	ug/L			ug/L			ug/L			ug/L		
Analyte	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt	Result	Q	Cmt
1,4-Dioxane	0.7	J	A	1	U		1	U		1	UJ	C

Cmt:Refer to corresponding section in the report narrative for each letter

N/A:Not Applicable

N/R:Not Reported

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